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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,808	11/12/2003	Blake A. Simmons	SANDIA-2 (SD-8485)	7853
54520 7590 11/13/2007 MICHALESON & ASSOCIATES P.O. BOX 8489 RED BANK, NJ 07701-8489			EXAMINER WOLLSCHLAGER, JEFFREY MICHAEL	
			ART UNIT 1791	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/712,808	Applicant(s) SIMMONS ET AL.	
	Examiner Jeff Wollschlager	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,10,11 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-8, 10, 11 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 21, 2007 has been entered.

Response to Amendment

Applicant's amendment to the claims filed August 21, 2007 has been entered. Claims 1, 2, 4-8, 10, 11 and 22-24 are pending and under examination. Claims 1, 7, 22, and 23 are currently amended. Claim 24 is new.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4-8, 10, 11 and 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limiting effect of "removing any non-absorbed excess of said [first/second] polymerizable material from said [first/second] surface" is unclear. It remains unclear to the examiner that the amended limitation limits the scope of the claim to the extent presented in the REMARKS filed 8/21/07. As discussed in the REMARKS, the claims are intended to be directed to a dry bonding polymerization welding technique where there is no adhesive materials on the surfaces of the workpieces.

The examiner submits the term "excess" renders the scope of the claims indefinite because it is not clear whether all material that is non-absorbed is to be considered excess or whether there may be material on the surface of the substrate in accord with the acknowledged conventional methods. The examiner suggests the limitation be amended as follows: "removing any non-absorbed [first/second] polymerizable material from said [first/second] surface".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 7, 8, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Unger et al. (U.S. Patent Application Publication 2001/0054778).

Regarding claims 1, 2 and 22, Unger et al. teach a method of joining plastic comprising:

a) creating a first surface diffusion zone containing therein a first polymerizable material, wherein said first surface diffusion zone is adjacent a first surface of a first workpiece; b) creating a second surface diffusion zone containing therein a second polymerizable material, wherein said second surface diffusion zone is adjacent to a second surface of a second workpiece, and wherein said first polymerizable material and said second polymerizable material are capable of bonding with each other; and, c) bringing said first surface and said

second surface into intimate contact at a bonding surface; and d) causing said first polymerizable material and said second polymerizable material to react and join across said bonding surface (Abstract; paragraphs [0012, 0141, 0142, 0147, 0148]). Unger et al. teach at least one of said surfaces contains at least one microfeature (Title, paragraphs [0007, 0010]).

Regarding claims 7, 8 and 23, Unger et al. teach a method of joining plastic comprising: a) creating a first surface diffusion zone containing therein a polymerizable material, wherein said first surface diffusion is adjacent to a first joining surface of a first workpiece; and, b) providing a second workpiece having a second joining surface; and, c) bringing said first joining surface and said second joining surface into intimate contact at a bonding surface; and, d) causing said polymerizable material to react and join across said bonding surface (paragraphs [0012, 0141, 0142, 0147, 0148]). Unger et al. teach at least one of said surfaces contains at least one microfeature (Title, paragraphs [0007, 0010]).

Claims 1, 2, 7, 8, 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Soane et al. (U.S. Patent 6,176,962).

Regarding claims 1, 2, 22 and 24, Soane et al. teach a method of joining plastic comprising: a) creating a first surface diffusion zone containing therein a first polymerizable material, wherein said first surface diffusion zone is adjacent a first surface of a first workpiece; b) creating a second surface diffusion zone containing therein a second polymerizable material, wherein said second surface diffusion zone is adjacent to a second surface of a second workpiece, and wherein said first polymerizable material and said second polymerizable material are capable of bonding with each other; and, c) bringing said first surface and said second surface into intimate contact at a bonding surface; and d) causing said first polymerizable material and said second polymerizable material to react and join across said

bonding surface (Abstract; col. 3, lines 13-18 and 47-50; col. 7, lines 20-28; col. 8, lines 11-18 and 25-27 and 35-39; col. 10, lines 4-26; col. 11, lines 57-col. 12, line 6; col. 13, lines 46-49; col. 14, lines 9-11). Soane et al. teach at least one of said surfaces contains at least one microfeature (Abstract). Specifically regarding the "drying" step of claim 24, Soane et al. also teach an evaporation step for evaporating solvent.

Regarding claims 7, 8 and 23, Soane et al. teach a method of joining plastic comprising: a) creating a first surface diffusion zone containing therein a polymerizable material, wherein said first surface diffusion is adjacent to a first joining surface of a first workpiece; and, b) providing a second workpiece having a second joining surface; and, c) bringing said first joining surface and said second joining surface into intimate contact at a bonding surface; and, d) causing said polymerizable material to react and join across said bonding surface (Abstract; col. 3, lines 13-18 and 47-50; col. 7, lines 20-28; col. 8, lines 11-18 and 25-27 and 35-39; col. 10, lines 4-26; col. 11, lines 57-col. 12, line 6; col. 13, lines 46-49; col. 14, lines 9-11). Soane et al. teach at least one of said surfaces contains at least one microfeature (Abstract).

Claims 1, 4, 7, 10 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Jing et al. (US 6,630,047).

Regarding claims 1, 7 and 24, Jing et al. teach a method of bonding a fluoropolymer shaped article and a shaped substrate with non-adhesive materials (Abstract; col. 7, lines 67-col. 8, line 3) wherein a bonding composition which includes a polymerizable material and solvent, which is removed/dried (col. 3, lines 27-39 and col. 4, lines 12-25) is deposited on a surface and/or incorporated into the fluoropolymer and the substrate (col. 7, lines 46-67). The shaped articles/workpieces are brought together and bonded by radiation, heat and/or pressure (col. 8, lines 4-30).

As to claims 4 and 10, Jing et al. teach various plastics may be employed, such as polyimides and polyketones (col. 5, lines 51-67).

Claims 1, 2, 7, 8 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Imbert et al. (US 2,822,575).

Regarding claims 1, 7, and 24, Imbert et al. teach a method of bonding webs of fibrous materials/workpieces wherein thermosetting materials are applied to the fibrous webs to impregnate the webs (col. 3, lines 57-75; col. 4, lines 48-59). Excess material is removed/dried from the webs (col. 3, lines 72-75) and the webs are brought together and the thermosetting materials cross-link to form the bonded web (Figure 1). The examiner notes that resin intrinsically is within the webs in accord with the meaning of the term "impregnate"

As to claims 2 and 8, the pores of the fibrous webs/mats intrinsically form a "microfeature".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4-6, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soane et al. (U.S. Patent 6,176,962) as applied to claims 1, 2, 7, 8, 22 and 23 above, and further in view of Kawazoe et al. (WO 03/070623) and/or Stokich et al. (U.S. Patent 6,184,284) and/or White et al. (U.S. Patent 4,824,500).

It is noted that U.S. Patent Application Publication 2005/0249637 is employed as the English translation of WO 03/070623. Citations to Kawazoe et al. are drawn from the U.S. Publication.

Regarding claims 4-6, 10 and 11, Soane et al. teach the method as discussed in the 102(b) rejection above. Soane et al. do not explicitly elaborate as to all the combinations of conventional plastics and conventional polymerizable materials that may be employed. However, in analogous joining/bonding methods, Kawazoe et al, Stokich et al., and White et al. each taken individually or in combinations with each other teach and suggest the claim limitations.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to employ the conventional polymers and conventional polymerizable materials, as taught and suggested by Kawazoe et al, Stokich et al., and White et al., together with the method of Soane et al. for the purpose as taught by Kawazoe et al. of making a product suited for its purpose (paragraph [0034]), or as taught by White et al. for providing a binder which cures at low temperatures and has the required cure strength (col. 1, lines 46-51) or as taught by Stokich et al. to provide an adhesion promoter which reduces water absorption (col. 1, lines 38-59).

Specifically, as to claims 4 and 10, Kawazoe et al., for example, show the known equivalence of PMMA, as specifically employed by Soane et al., with PEEK, PPS, and PEI (paragraphs [0030, 0034]), in similar microfluidic applications. As suggested by Kawazoe et al, the ordinarily skilled artisan would choose the material "depending on a purpose" (paragraph [0034]).

As to claims 5 and 11, Stokich et al. (col. 1, lines 65- col. 2, lines 4; col. 2, lines 17-35 and 46-52; col. 14, lines 11-20; col. 15, lines 28-43) and White et al. (col. 5, lines 40-57; and col. 8, lines 8-14) for example, disclose that various polymers may be employed, and styrene and divinylbenzene, alone or together, may be employed as polymerizable materials.

As to claim 6, White et al., for example, employ styrene and divinylbenzene analogously in a ratio of 9:1 (col. 8, lines 6-14).

Claims 4-6, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Unger et al. (U.S. Patent Application Publication 2001/0054778) as applied to claims 1, 2, 7, 8, 22 and 23 above, and further in view of Kawazoe et al. (WO 03/070623) and/or Stokich et al. (U.S. Patent 6,184,284; issued February 6, 2001) and/or White et al. (U.S. Patent 4,824,500).

It is noted that U.S. Patent Application Publication 2005/0249637 is employed as the English translation of WO 03/070623. Citations to Kawazoe et al. are drawn from the U.S. Publication.

Regarding claims 4-6, 10 and 11, Unger et al. teach the method as discussed in the rejection above. Unger et al. do not explicitly elaborate as to all the combinations of conventional plastics and conventional polymerizable materials that may be employed. However, in analogous joining/bonding methods, Kawazoe et al, Stokich et al., and White et al.

each taken individually or in combinations with each other teach and suggest the claim limitations.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to employ the conventional polymers and conventional polymerizable materials, as taught and suggested by Kawazoe et al, Stokich et al., and White et al. together with the method of Unger et al. for the purpose as taught by Kawazoe et al. of making a product suited for its purpose (paragraph [0034]), or as taught by White et al. for providing a binder which cures at low temperatures and has the required cure strength (col. 1, lines 46-51) or as taught by Stokich et al. to provide an adhesion promoter which reduces water absorption (col. 1, lines 38-59).

Specifically, as to claims 4 and 10, Kawazoe et al., for example, show the known equivalence of PMMA, as specifically employed by Kawazoe et al., with PEEK, PPS, and PEI (paragraphs [0030, 0034]), in similar microfluidic applications. As suggested by Kawazoe et al, the ordinarily skilled artisan would choose the material "depending on a purpose" (paragraph [0034]).

As to claims 5 and 11, Stokich et al. (col. 1, lines 65- col. 2, lines 4; col. 2, lines 17-35 and 46-52; col. 14, lines 11-20; col. 15, lines 28-43) and White et al. (col. 5, lines 40-57; and col. 8, lines 8-14) for example, disclose that various polymers may be employed, and styrene and divinylbenzene, alone or together, may be employed as polymerizable materials.

As to claim 6, White et al., for example, employ styrene and divinylbenzene analogously in a ratio approximately 9:1 (col. 8, lines 6-14).

Claims 1, 2, 7, 8, and 22-24 are rejected under 35 U.S.C. 103(a) as being obvious over Unger et al. (U.S. Patent Application Publication 2001/0054778) in view of Gandhi et al. (US 6,123,798).

Regarding claims 1, 2, 22 and 24, Unger et al. teach a method of joining plastic comprising: a) creating a first surface diffusion zone containing therein a first polymerizable material, wherein said first surface diffusion zone is adjacent a first surface of a first workpiece; b) creating a second surface diffusion zone containing therein a second polymerizable material, wherein said second surface diffusion zone is adjacent to a second surface of a second workpiece, and wherein said first polymerizable material and said second polymerizable material are capable of bonding with each other; and, c) bringing said first surface and said second surface into intimate contact at a bonding surface; and d) causing said first polymerizable material and said second polymerizable material to react and join across said bonding surface (Abstract; paragraphs [0012, 0141, 0142, 0147, 0148]). Unger et al. teach at least one of said surfaces contains at least one microfeature (Title, paragraphs [0007, 0010]).

However, in an alternative interpretation of the "removing" limitation found in the claims, Unger et al. do not teach a step of removing/drying the polymerizable material from the surface of the workpieces such that there is no excess material. However, Gandhi et al. teach a method of bonding microfluidic devices where they teach that it is desirable to avoid the introduction of unwanted components into channels/chamber and that the bonding agents must be carefully applied (col. 7, lines 2-14).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have removed/dried material from the surface of the pieces employed by Unger et al., as suggested by Gandhi et al. for the purpose of ensuring the undesired introduction of unwanted components into channels/chambers is avoided.

Regarding claims 7, 8 and 23, Unger et al. teach a method of joining plastic comprising: a) creating a first surface diffusion zone containing therein a polymerizable material, wherein said first surface diffusion is adjacent to a first joining surface of a first workpiece; and, b) providing a second workpiece having a second joining surface; and, c) bringing said first joining surface and said second joining surface into intimate contact at a bonding surface; and, d) causing said polymerizable material to react and join across said bonding surface (paragraphs [0012, 0141, 0142, 0147, 0148]). Unger et al. teach at least one of said surfaces contains at least one microfeature (Title, paragraphs [0007, 0010]).

However, in an alternative interpretation of the "removing" limitation found in the claims, Unger et al. do not teach a step of removing/drying the polymerizable material from the surface of the workpieces such that there is no excess material. However, Gandhi et al. teach a method of bonding microfluidic devices where they teach that it is desirable to avoid the introduction of unwanted components into channels/chamber and that the bonding agents must be carefully applied (col. 7, lines 2-14).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have removed/dried material from the surface of the pieces employed by Unger et al., as suggested by Gandhi et al. for the purpose of ensuring the undesired introduction of unwanted components into channels/chambers is avoided.

Claims 4-6, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Unger et al. (U.S. Patent Application Publication 2001/0054778) in view of Gandhi et al. (US 6,123,798), as applied to claims 1, 2, 7, 8, 22 and 23 above, and further in view of Kawazoe et al. (WO 03/070623) and/or Stokich et al. (U.S. Patent 6,184,284; issued February 6, 2001) and/or White et al. (U.S. Patent 4,824,500).

It is noted that U.S. Patent Application Publication 2005/0249637 is employed as the English translation of WO 03/070623. Citations to Kawazoe et al. are drawn from the U.S. Publication.

Regarding claims 4-6, 10 and 11, the combination teaches the method set forth above. Unger et al. do not explicitly elaborate as to all the combinations of conventional plastics and conventional polymerizable materials that may be employed. However, in analogous joining/bonding methods, Kawazoe et al, Stokich et al., and White et al. each taken individually or in combinations with each other teach and suggest the claim limitations.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to employ the conventional polymers and conventional polymerizable materials, as taught and suggested by Kawazoe et al, Stokich et al., and White et al. together with the method of Unger et al. for the purpose as taught by Kawazoe et al. of making a product suited for its purpose (paragraph [0034]), or as taught by White et al. for providing a binder which cures at low temperatures and has the required cure strength (col. 1, lines 46-51) or as taught by Stokich et al. to provide an adhesion promoter which reduces water absorption (col. 1, lines 38-59).

Specifically, as to claims 4 and 10, Kawazoe et al., for example, show the known equivalence of PMMA, as specifically employed by Kawazoe et al., with PEEK, PPS, and PEI (paragraphs [0030, 0034]), in similar microfluidic applications. As suggested by Kawazoe et al, the ordinarily skilled artisan would choose the material "depending on a purpose" (paragraph [0034]).

As to claims 5 and 11, Stokich et al. (col. 1, lines 65- col. 2, lines 4; col. 2, lines 17-35 and 46-52; col. 14, lines 11-20; col. 15, lines 28-43) and White et al. (col. 5, lines 40-57; and col.

8, lines 8-14) for example, disclose that various polymers may be employed, and styrene and divinylbenzene, alone or together, may be employed as polymerizable materials.

As to claim 6, White et al., for example, employ styrene and divinylbenzene analogously in a ratio approximately 9:1 (col. 8, lines 6-14).

Claims 2, 8, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jing et al. (US 6,630,047) as applied to claims 1, 4, 7, 10 and 24 above, in view of Gandhi et al. (US 6,123,798).

As to claims 2, 8, 22 and 23, Jing et al. teach the method as set forth above. Jing et al. do not teach the shaped article has a microfeature or is a microfluidic device. However, Gandhi et al. teach a method of forming and bonding components chosen from a variety of plastics including PTFE and polyolefins to form a microfluidic device (col. 4, line 59-col. 5, line 3; col. 7, lines 5-15).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have combined the teaching of Jing et al. and Gandhi et al. to have formed a bonded microfluidic device as suggested by Gandhi et al. while practicing the method of Jing et al. since Gandhi et al. teach that it is desirable to avoid the introduction of adhesives into the channels of the device during bonding and Jing et al. teach a bonding method that includes non-adhesive materials.

Response to Arguments

Applicant's arguments filed August 21, 2007 have been fully considered, but they are not persuasive.

Soane et al. is still applied in view of the 35 USC, 112 second paragraph rejection set forth above. For similar reasons, Soane et al. is also applied against new claim 24. The rejection over Soane et al. can be overcome by amending the limitation "removing any non-absorbed excess of said [first/second] polymerizable material from said [first/second] surface" as suggested above.

Unger et al. is still applied because Unger et al. has polymerizable material "in" the layers to be bonded. Accordingly, there is no non-absorbed polymerizable material on the surface and therefore it has intrinsically been "removed". Alternatively, Unger et al. is combined with Gandhi et al. to teach and suggest removing/drying.

Finally, new grounds of rejections are set forth above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JW

Jeff Wollschlager
Examiner
Art Unit 1791

November 2, 2007

ca
CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER